Documentation for Exceptional Event Excluded Data New Year's Fireworks on January 1, 2010 Exceedance and Excluded 24-Hour PM_{2.5} Data

I. Exceedances, Excluded Data and Exceptional Event Flag

Exceedances and excluded data at the Honolulu Air Monitoring Station AIRS ID 150031001; Pearl City Air Monitoring Station AIRS ID 150032004; and Sand Island Air Monitoring Station AIRS ID 150031004

On January 1, 2010, the 24-hour $PM_{2.5}$ averages at the Honolulu, Pearl City and Sand Island air monitoring stations were 69 $\mu g/m^3$, 45 $\mu g/m^3$ and 36 $\mu g/m^3$, respectively. All three values exceeded the 35 $\mu g/m^3$ 24-hour $PM_{2.5}$ National Ambient Air Quality Standard (NAAQS).

The data has been flagged using the event type, "Infrequent Large Gatherings," as described in EPA document 450/4-66-007, "Guideline on the Identification and Use of Air Quality Data Affected by Exceptional Events."

The data is excluded due to the influence of fireworks resulting in higher than normal 24-hour averages. The 24-hour averages preceding and following the event were as follows:

| | 24- | Hour PM _{2.5} Average (μο | y/m³) |
|----------|----------|------------------------------------|-------------|
| Date | Honolulu | Pearl City | Sand Island |
| 12/29/09 | 16 | 11 | 11 |
| 12/30/09 | 13 | 4 | 5 |
| 12/31/09 | 21 | 23 | 9 |
| 1/1/10 | 69 | 45 | 36 |
| 1/2/10 | 12 | 6 | 8 |
| 1/3/10 | 16 | 10 | 13 |

II. Event

The State of Hawaii allows the private and public use of fireworks in celebrating the New Year from 9:00 p.m. on December 31 to 1:00 a.m. on January 1. This is a long standing cultural tradition that is embraced by the people of Hawaii. Although there are some public exhibitions of large fireworks displays, it is the use of common fireworks by the residential community that cause most of the associated particle pollution. The resulting emissions from fireworks are also compounded by the seasonal increase in weather systems that typically produce light and variable winds.

Attachment 1 is a graphical presentation of the 1-hour $PM_{2.5}$ averages during the 2010 New Year's fireworks event. Although there is no 1-hour $PM_{2.5}$ NAAQS, the graph

State of Hawaii Department of Health Clean Air Branch

clearly shows the relationship between the use of fireworks in the peak hours of 9:00 p.m. to 3:00 a.m. on New Year's and the resulting increase in $PM_{2.5}$ values.

Attachment 2 is a graphical presentation of the 2008 Summary of 24-hour PM_{2.5} averages at the Honolulu, Pearl City and Sand Island stations and shows that the average during the fireworks event is higher than the normal fluctuating range of values.

Attachment 3 includes supporting meteorological data collected at the air stations as well as rainfall and wind data from selected areas around the island provided by the National Weather Service and other weather service websites.

Attachment 4 includes various media articles about the weather conditions and the 2010 New Year's celebration.

III. Justification for "Exceptional Event"

- In graphical presentations, *Attachments 1 and 2* clearly show the causal relationship between the high PM_{2.5} values and the 2010 New Year's fireworks celebration. The annual range of values other than during that period is well below the federal standard. *Attachment 1* shows the rapid increase and subsequent decrease of hourly PM_{2.5} values during the peak celebratory hours of 9:00 p.m. to 3:00 a.m.
- The data during this event is flagged because it is not reflective of the normal range of values. Except during the New Year's fireworks event, the maximum 24hour PM_{2.5} values are generally between 20 to 25 percent of the federal standard.
- During the winter months, frontal systems are more frequent which often causes the winds to become light and variable. Without the normal trade-winds (winds from the northeasterly direction) to clear the air, smoke from fireworks tends to linger until the celebration ends. *Attachment 3* contains documentation showing the wind and rainfall conditions that occurred in selected areas on December 31, 2009, and January 1, 2010. The data show on those days winds were light and variable with little or no rain. This is supported by wind data collected at the air stations showing light and variable conditions during the height of the fireworks.
- Attachment 4 includes various media articles about the 2010 New Year's event.
 The articles illustrate the popularity of common fireworks in celebrating the New
 Year as well as a description of the light winds which allowed the smoke to
 accumulate without dispersion. In addition, there are many videos on websites
 such as Youtube that depict the popularity in Hawaii of welcoming in the New Year
 with fireworks.

State of Hawaii Department of Health Clean Air Branch

IV. Public Notice

Included in *Attachment 5* is the affidavit of publication in a major Honolulu newspaper notifying the public of the availability for inspection of this document:

Honolulu Star-Bulletin Public Notice: Affidavit of Publication (State-wide distribution)

Attachments

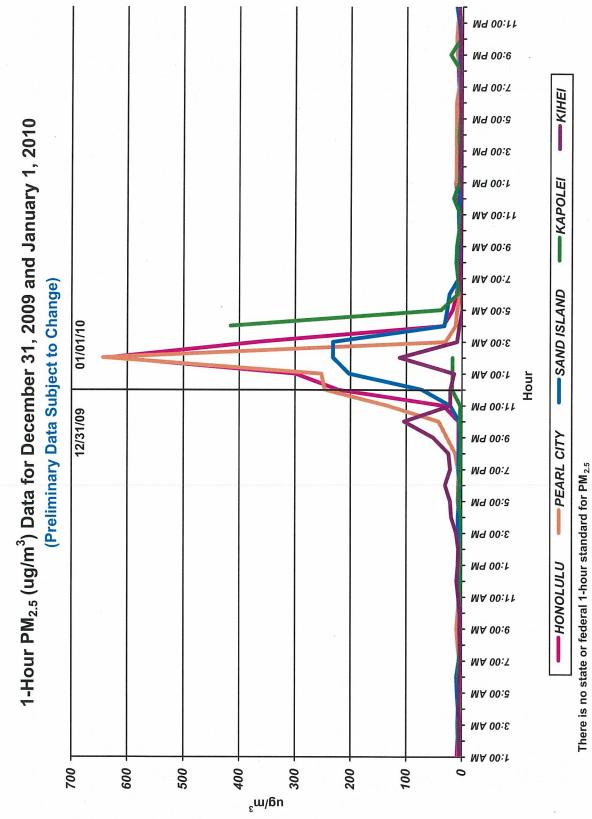
Attachment 1: 1-Hour PM_{2.5} Data for December 31, 2009 and January 1, 2010

Attachment 2: 2008 Summary of 24-Hour PM_{2.5}

Attachment 3: Supporting Weather Data

Attachment 4: News Media Articles Pertaining to the New Year's Fireworks Celebration

Attachment 5: Affidavit of Publication



The federal standard for PM $_{2.6}$ is 35 ug/m 3 averaged over 24 hours.

Table 4-3. 2008 Summary of 24-Hour PM_{2.5}: SLAMS Stations

| | | Annue | Annual Statistics | | | | | | | | | | | | | | | |
|--------------------|-------------------------|-----------------------|-------------------|-----|---------|--------------------------------------------------------------------------------|---------|-------------|--------|-------------|-------|--------|--------|-------------------|-----|---------------------|------------------|---------------------|
| | Max | Maximum | Annual Mean | O) | 98th Pe | $98^{\rm th}$ Percentile 24-hour Occurrences Greater than $35~{\rm \mu g/m^3}$ | le 24-l | our O | ccurre | ences | Great | er tha | n 35 L | _s m/br | | | | |
| | 1 st High | 98 th % | All Hours | Jan | Feb | Mar | Apr | Apr May Jun | Jun | Jul Aug Sep | Aug | | Oct | Nov | Dec | Possible Periods | Valid Periods | Percent Recovery |
| ОАНО | | | | | | | | | | | | | | | | | | |
| Honolulu | 341 | 13 | 4.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 122 | 119 | 86 |
| Kapolei | 351 | 21 | 4.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 122 | 117 | 96 |
| Pearl City | 26 | 13 | 4.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 122 | 118 | 26 |
| Sand Island | 14 | 13 | 5.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 61 | 09 | 86 |
| MAUI | | | | | | | | | | | | | | | | | | |
| Kihei ² | 16 | 15 | 5.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 61 | 58 | 92 |

¹ Occurred on a very bad vog day ² Kihei is a 1 in 6 day sampling site and although continuous data was collected in December, only creditable samples are counted towards completeness determination

Table 4-4. Attainment of the 24-Hour PM., NAAOS: SLAMS Stations

| | ומטומי | TT. Attaillient | 1 INC 1-1-7 DIN 10 | I able 4-4. Attailline III of the 24-1 load 1 M2.5 M224 C. OF2 MO Otations | לווסוס סומרי |
|-------------|-----------------------------|-----------------------------|-----------------------------|----------------------------------------------------------------------------|---------------------------------|
| Station | 2006 98 th value | 2007 98 th value | 2008 98 th value | 3-Year Average | Sites in violation of the NAAQS |
| Honolulu | 10 | 8 | 13 | 10 | 0 |
| Kapolei | 7 | 8 | 21 | 12 | 0 |
| Pearl City | 6 | 7 | 13 | 10 | 0 |
| Sand Island | 10 | 10 | 13 | 11 | 0 |
| Kihei | 10 | 10 | 15 | 12 | 0 |
| | | 4 | 2 2 2 | | c |

Attainment: The 3-year average of the 98th percentile values must be less than or equal to 35 µg/m³. In 2008, Hawaii was in attainment with the 24-hour PM_{2.5} NAAQS.

| ; | | | | | |
|-------------|---------------|---------------|---------------|----------------|---------------------------------|
| Station | 2006 Ann. Ave | 2007 Ann. Ave | 2008 Ann. Ave | 3-Year Average | Sites in violation of the NAAQS |
| Honolulu | 3.51 | 3.9 | 4.7 | 4.0 | 0 |
| Kapolei | 3.8 | 3.5 | 4.9 | 4.1 | 0 |
| Pearl City | 3.9 | 3.7 | 4.5 | 4.0 | 0 |
| Sand Island | 4.9 | 5.0 | 5.7 | 5.2 | 0 |
| Kihei | 4.6 | 5.0 | 5.5 | 5.0 | 0 |

Attainment: The 3-year average of annual mean values must be less than 15 µg/m³. In 2008, Hawaii was in attainment with the annual PM_{2.5} NAAQS.

Toos not satisfy summary criteria, <75% data recovery in one or more quarters

Attachment 3

| 3-1 | National Weather Service Forecast for Honolulu Airport - December 31, 2009 through January 1, 2010 |
|------|------------------------------------------------------------------------------------------------------------------------------|
| 3-2 | National Weather Service Forecast for Waipio, Hawaii (Central Oahu) - December 31, 2009 through January 1, 2010 |
| 3-3 | National Weather Service Hawaii Rainfall Summary for December 31, 2009 through January 1, 2010 |
| 3-4 | Honolulu Station Daily Site Summary for December 31, 2009 |
| 3-5 | Honolulu Station Daily Site Summary for January 1, 2010 |
| 3-6 | Sand Island Station Daily Site Summary for December 31, 2009 |
| 3-7 | Sand Island Station Daily Site Summary for January 1, 2010 |
| 3-8 | Pearl City Station Met Data for December 31, 2009 and January 1, 2010 |
| 3-9 | Weather station history from <i>Weather Underground</i> at <u>www.wunderground.com</u> Honolulu, Hawaii on December 31, 2009 |
| 3-10 | Weather station history from <i>Weather Underground</i> at <u>www.wunderground.com</u> Honolulu, Hawaii on January 1, 2010 |



Honolulu, HI

National Weather Service Forecast Office

Site Map

Home

NOAA > NWS > WFO Honolulu

News

Organization

Search

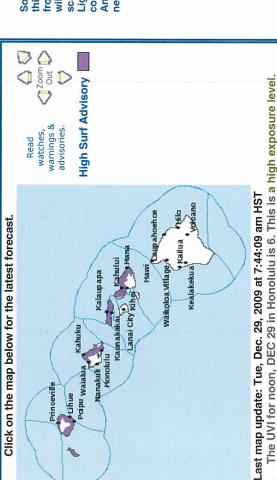
NWS O AII NOAA Go

Hawaii Area Synopsis

Another cold front will approach the islands early this morning over the smaller islands as a weak scattered showers will remain into Wednesday. Light winds return Wednesday with hazy front approaches from the northwest. Showers Southerly winds and low clouds are increasing conditions prevailing through new years eve. will increase over Kauai and Oahu today and next week.



Updated: 12/29/2009 3:37 am HST weather.gov/hawaii



Use the following drop down menu to change the forecast at a glance to a city near you.

Then bookmark that page to always see that city's forecast at a glance when you visit.

Get Quick Forecast

Lihue

H: 80 Lo: **67**

Hi: **80** Lo: **66**

Lo: **67** <u>∓</u>

H: 80 Lo: **66**

Hi: **80** Lo: **67**

Hi: **80** Lo: **68**

Hi: 82

MON JAN 04

SUN JAN 03

JAN 02

JAN 01

DEC 31 모

WED DEC 30

TODAY DEC 29

SAT

Get Point Forecast

Use the drop down menu to select an alternate link to zone forecasts.

- Oahu South Shore

Forecast at a Glance for Honolulu Airport

Point Forecasts for Selected Locations Shortcuts

Downtown Honolulu (Oahu)

Get Point Forecast

Get Zone Forecast

Enter latitude/longitude pair in decimal degrees (i.e. 21.28 -157.83)

Longitude

Latitude

-157.83

21.28

NWS Forecast for: Honolulu HI

Issued by: National Weather Service Honolulu, HI Last Update: 11:25 am HST Dec 28, 2009



Tonight

Mostly Clear Lo 68 °F

Tuesday



Hi 80 °F

Night 30% Chance Showers

Lo 68 °F

Tuesday

30% Chance Showers

Hi 79°F

Wednesday Wednesday Night Slight Chc

20% Showers Lo 66 °F

20% Slight Chc Showers Hi 79 °F

Thursday

Thursday Night Haze

Lo 67 °F

New Year's Day Sunny

Hi 79 °F



Tonight: Mostly clear, with a low around 68. Southeast wind 5 to 7 mph becoming northeast.

Tuesday: A 20 percent chance of showers after noon. Partly cloudy, with a high near 80. South wind between 8 and 10 mph.

Tuesday Night: A 30 percent chance of showers. Partly cloudy, with a low around 68. South wind between 11 and 15 mph, with gusts as high as 20 mph.

Wednesday: A 30 percent chance of showers, mainly before noon. Partly cloudy, with a high near 79. Southwest wind around 10 mph.

Wednesday Night: A 20 percent chance of showers. Partly cloudy, with a low around 66. West wind 5 to 7 mph becoming northeast.

Thursday: A 20 percent chance of showers. Partly cloudy, with a high near 79. South wind around 7 mph.

Thursday Night: Widespread haze. Mostly clear, with a low around 67. West wind around 8 mph becoming northeast.

New Year's Day: Sunny, with a high near 79. Southeast wind 10 to 13 mph becoming southwest.

Friday Night: Isolated showers. Partly cloudy, with a low around 68. East wind around 10 mph. Chance of precipitation is 20%.

Saturday: Isolated showers. Widespread haze after noon. Partly cloudy, with a high near 80. South wind around 10 mph. Chance of precipitation is 20%.

Saturday Night: Isolated showers. Widespread haze. Partly cloudy, with a low around 67. West wind around 8 mph becoming northeast. Chance of precipitation is 20%.

Sunday: Isolated showers. Widespread haze. Partly cloudy, with a high near 79. South wind around 8 mph. Chance of precipitation is 20%.

Sunday Night: Scattered showers. Widespread haze. Mostly cloudy, with a low around 68. South wind between 10 and 13 mph. Chance of precipitation is 30%.

Monday: Scattered showers. Widespread haze. Partly cloudy, with a high near 79. South wind around 17 mph, with gusts as high as 22 mph. Chance of precipitation is 30%.

Point Forecast: Honolulu HI 21.31°N 157.87°W (Elev. 16 ft)

Visit your local NWS office at: http://www.prh.noaa.gov/hnl/

NWS Forecast for: Waipio HI

ATTACHMENT 3-2

Issued by: National Weather Service Honolulu, HI Last Update: 11:24 am HST Dec 28, 2009

Tonight



Clear Lo 65 °F

Tuesday

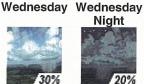
20% Slight Chc Showers

Hi 82 °F

30% Chance Showers Lo 65 °F

Tuesday

Night



Chance Showers Hi 81 °F



Slight Chc Showers Lo 63 °F



Thursday

Hi 80 °F



Lo 62 °F



Hi 80 °F



Mostly Clear Lo 63 °F

Tonight: Mostly clear, with a low around 65. West wind 5 to 7 mph becoming north.

Tuesday: A 20 percent chance of showers after noon. Partly cloudy, with a high near 82. Southwest wind between 8 and 11 mph.

Tuesday Night: A 30 percent chance of showers. Partly cloudy, with a low around 65. South wind between 11 and 14 mph.

Wednesday: A 30 percent chance of showers, mainly before noon. Partly cloudy, with a high near 81. South wind around 10 mph. New rainfall amounts of less than a tenth of an inch possible.

Wednesday Night: A 20 percent chance of showers. Partly cloudy, with a low around 63. West wind 6 to 8 mph becoming north.

Thursday: A 20 percent chance of showers. Partly cloudy, with a high near 80. South wind around 7 mph.

Thursday Night: Widespread haze. Mostly clear, with a low around 62. Southwest wind around 8 mph becoming north.

New Year's Day: Sunny, with a high near 80. South wind between 9 and 11 mph.

Friday Night: Mostly clear, with a low around 63. Southwest wind around 11 mph becoming north.

Saturday: Isolated showers. Widespread haze after noon. Partly cloudy, with a high near 81. South wind around 10 mph. Chance of precipitation is 20%.

Saturday Night: Isolated showers. Widespread haze. Partly cloudy, with a low around 62. West wind around 8 mph becoming north. Chance of precipitation is 20%.

Sunday: Isolated showers. Widespread haze. Partly cloudy, with a high near 80. Southwest wind around 9 mph. Chance of precipitation is 20%.

Sunday Night: Isolated showers. Widespread haze. Partly cloudy, with a low around 63. South wind between 9 and 14 mph. Chance of precipitation is 20%.

Monday: Isolated showers. Widespread haze. Partly cloudy, with a high near 80. South wind around 17 mph, with gusts as high as 22 mph. Chance of precipitation is 20%.

Point Forecast: Waipio HI 21.4°N 157.99°W (Elev. 89 ft)

Visit your local NWS office at: http://www.prh.noaa.gov/hnl/

```
SRHW80 PHFO 011845
```

RRAHFO

HAWAII RAINFALL SUMMARY

NATIONAL WEATHER SERVICE HONOLULU HI

845 AM HST FRI JAN 01 2010

```
.B HFO 0101 H DH08 /DRH-03/PPT/DRH-06/PPO/DRH-12/PPK/DRH-24/PPD
 :AUTOMATED RAIN GAGE REPORTS FROM AROUND THE STATE OF HAWAII.
 :THESE ARE PROVISIONAL REPORTS THAT HAVE NOT BEEN QUALITY
 : CONTROLLED.
 :T=TRACE RAINFALL, M=MISSING DATA
 :PRECIPITATION TOTALS ENDING 8 AM HST
 :ISLAND OF KAUAI
                                                              INCHES
                                                  3-HR 6-HR 12-HR 24-HR
 :ID LOCATION
WINDWARD/MAUKA SITES
 :
 : LEEWARD SITES
EEWARD SITES

POIH1: POIPU : 0.00 / 0.00 / 0.01 / 0.76

OMAH1: OMAO (HI51) : 0.00 / 0.00 / 0.00 / 0.67

KHEH1: KALAHEO (HI43) : 0.00 / 0.00 / 0.00 / 0.49

PAKH1: PORT ALLEN : 0.00 / 0.00 / 0.00 / 0.37

HNPH1: HANAPEPE (HI49) : 0.00 / 0.00 / 0.00 / 0.45

POPH1: PUU OPAE : 0.00 / 0.00 / 0.02 / 1.11

WHGH1: WAIMEA HEIGHTS : 0.00 / 0.00 / 0.00 / 0.37

MNRH1: MANA : 0.00 / 0.00 / 0.00 / 0.37
 :ISLAND OF OAHU
                                                             INCHES
3-HR 6-HR 12-HR 24-HR
 :ID LOCATION
```

ATTACHMENT 3-3

| | | | | _ | • | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|---------------------------------------------------------------------------|----------------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|------------------------------------------------------------------------------------------------------|
| STVH1 : | ST. STEPHENS (HI23) | : 0. | 00, | / | 0.00 | / | 0.03 | / | 0.03 |
| | MAUNAWILI (HI22) | : 0. | 00 | / | 0.00 | / | 0.21 | / | 0.23 |
| | OLOMANA FIRE STATION (HI24) | | 00 | / | 0.00 | / | 0.14 | 1 | 0.15 |
| | WAIMANALO (HI13) | | | | | | | | 0.11 |
| | BELLOWS AFS | . 0. | | | | | | | 0.20 |
| | KAMEHAME (HI28) | . 0. | - | | | | | | 0.14 |
| | KAMERAME (HIZO) | . 0. | | | | | | | |
| | HAWAII KAI GOLF CRSE (HI21) | : 0. | 00 , | / | 0.00 | / | 0.11 | / | 0.15 |
| : | LEEWARD/CENTRAL SITES | | | | | | | | |
| NIUH1 : | NIU VALLEY (HI06) PALOLO FIRE STATION (HI25) | : 0. | 00 , | / | 0.00 | / | 0.11 | / | 0.11 |
| PFSH1 : | PALOLO FIRE STATION (HI25) | : 0. | 00 | / | 0.00 | / | 0.06 | / | 0.08 |
| HSDH1 : | H-1 KAPIOLANI (USGS) | : 0. | 00, | / | 0.00 | / | 0.08 | / | 0.11 |
| ALOH1 : | ALOHA TOWER (HI26) | : | M | / | M | / | M | / | M |
| | HONOLULU AIRPORT | | 00 | / | 0.00 | / | 0.01 | / | 0.01 |
| | MOANALUA (HI19) | : 0. | 00 | / | 0.00 | / | 0.12 | / | 0.12 |
| | NORTH HALAWA STREAM (USGS) | : 0. | | | 0.00 | | | | 0.00 |
| PACH1 : | PATTSADES (HT11) | . 0 | | | 0.00 | | | | 0.13 |
| WAMES . | PALISADES (HI11) WAIAWA C.F. (HI29) | . 0. | | | 0.00 | | | | 0.11 |
| MITTITI . | MILILANI (HI14) | : 0. | | | 0.00 | | | | 0.12 |
| | · · · | | 00 , | , | 0.00 | /, | 0.10 | | 0.12 |
| | SOUTH FORK KAUKONAHUA (USGS) | | | | | | | | |
| | SCHOFIELD BARRACKS | | | | | | | | 0.28 |
| | SCHOFIELD SOUTH | | | | | | | | 0.39 |
| | WHEELER AIRFIELD (HI02) | : 0. | | | | | | | 0.15 |
| POAH1 : | POAMOHO (HI07) | : 0. | | | | / | 0.16 | / | 0.19 |
| KWLH1 : | POAMOHO (HI07) KAWAILOA DILLINGHAM WAIPIO (HI08) | : | M | / | M | / | M | / | M |
| DLGH1 : | DILLINGHAM | : 0. | | | | / | 0.26 | / | 0.26 |
| PECH1 : | WAIPIO (HI08) | : 0. | 00 | / | 0.00 | / | 0.04 | 1 | 0.06 |
| KUNH1 : | KUNIA SUBSTATION (HI12) | : 0. | | | 0.00 | | | | 0.03 |
| WWFH1 : | WATAWA | : 0. | | | 0.00 | | | | 0.10 |
| | HONOULIULI | | | | 0.00 | | | | 0.07 |
| | KALAELOA AIRPORT | | | | 0.00 | | | | 0.00 |
| | | | | | | | | | |
| | PALEHUA | | | | 0.01 | | | | 0.45 |
| LUAH1 : | LUALUALEI (HI05) | : 0. | | | 0.01 | | | | 0.22 |
| WNVH1 : | WAIANAE VALLEY | : 0. | | | 0.00 | | | | 0.29 |
| WRHH1 · | WAIANAE BOAT HARBOR | : 0. | 00 | | 0.01 | | 0.18 | | 0.19 |
| "" . | | | | | | | | | |
| WAIH1 : | WAIANAE (HI17) | : | | | 0.00 | | | | |
| WAIH1 : MKHH1 : | WAIANAE (HI17) MAKAHA STREAM (USGS) | : : 0. | 00 | / | 0.01 | / | 0.45 | / | 0.62 |
| WAIH1: MKHH1: MKRH1: | WAIANAE (HI17) MAKAHA STREAM (USGS) MAKUA RANGE | : 0. : 0. | 00 | / | | / | 0.45 | / | |
| WAIH1: MKHH1: MKRH1: MKGH1: | WAIANAE VALLEY WAIANAE BOAT HARBOR WAIANAE (HI17) MAKAHA STREAM (USGS) MAKUA RANGE MAKUA RIDGE | : 0. : 0. | 00 | / | 0.01 | / | 0.45 0.22 | / | 0.62 |
| WAIH1: MKHH1: MKRH1: MKGH1: | WAIANAE (HI17) MAKAHA STREAM (USGS) MAKUA RANGE MAKUA RIDGE | : : 0. : 0. | 00 | / | 0.01 | / | 0.45 0.22 | / | 0.62 0.23 |
| MKGH1 : | MAKUA RIDGE | : : 0. : 0. | 00 | / | 0.01 0.00 M | / | 0.45 0.22 M | / | 0.62 0.23 |
| MKGH1 : : :ISLAND | MAKUA RIDGE OF MOLOKAI | : | 00 00 M | / / | 0.01 0.00 M | / / / CHE: | 0.45 0.22 M | / / | 0.62 0.23 M |
| MKGH1 : : ISLAND : ID | MAKUA RIDGE OF MOLOKAI LOCATION | : 3- | 00 . 00 . M . | / / | 0.01 0.00 M ING | / / / CHE: | 0.45 0.22 M S 12-HR | / / | 0.62 0.23 M |
| MKGH1 : : ISLAND : ID KMLH1 : | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (HI73) | : 3- : 0. | 00 00 M HR 00 | / / / | 0.01 0.00 M INC 6-HR 0.00 | / / CHE: | 0.45 0.22 M S 12-HR 0.05 | /// | 0.62 0.23 M 24-HR 0.05 |
| MKGH1: :ISLAND:ID KMLH1: MKPH1: | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (HI73) MAKAPULAPAI | : 3- : 0. : 0. | 00 00 M HR 00 | / / / | 0.01 0.00 M ING 6-HR 0.00 | / / CHE: / / | 0.45 0.22 M S 12-HR 0.05 0.11 | /// | 0.62 0.23 M 24-HR 0.05 0.11 |
| MKGH1: :ISLAND:ID KMLH1: MKPH1: | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (HI73) MAKAPULAPAI | : 3- : 0. : 0. | 00 00 M HR 00 | / / / | 0.01 0.00 M ING 6-HR 0.00 | / / CHE: / / | 0.45 0.22 M S 12-HR 0.05 0.11 | /// | 0.62 0.23 M 24-HR 0.05 0.11 |
| MKGH1: :ISLAND:ID KMLH1: MKPH1: | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (HI73) MAKAPULAPAI | : 3- : 0. : 0. | 00 00 M HR 00 | / / / | 0.01 0.00 M ING 6-HR 0.00 | / / CHE: / / | 0.45 0.22 M S 12-HR 0.05 0.11 | /// | 0.62 0.23 M 24-HR 0.05 0.11 |
| MKGH1: :ISLAND:ID KMLH1: MKPH1: MLKH1: KACH1: | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (HI73) MAKAPULAPAI | : 3- : 0. : 0. | 00 00 M HR 00 | / / / | 0.01 0.00 M ING 6-HR 0.00 | / / CHE: / / | 0.45 0.22 M S 12-HR 0.05 0.11 | /// | 0.62 0.23 M 24-HR 0.05 0.11 |
| MKGH1: :ISLAND:ID KMLH1: MKPH1: MLKH1: KACH1: HMK: | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (HI73) MAKAPULAPAI MOLOKAI 1 KAUNAKAKAI MAUKA (HI71) MOLOKAI AIRPORT | : 3- : 0. : 0. | 00 00 M HR 00 | / / / | 0.01 0.00 M ING 6-HR 0.00 0.00 0.00 0.00 | / / / / / / / | 0.45 0.22 M S 12-HR 0.05 0.11 0.20 0.07 | /// | 0.62 0.23 M 24-HR 0.05 0.11 |
| MKGH1: :ISLAND:ID KMLH1: MKPH1: MLKH1: KACH1: HMK: : | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (H173) MAKAPULAPAI MOLOKAI 1 KAUNAKAKAI MAUKA (H171) MOLOKAI AIRPORT OF LANAI | 3- : 0. : 0. : 0. | 00 00 M HR 00 00 00 | | 0.01 0.00 M ING 6-HR 0.00 0.00 0.00 0.00 | / / / / / / CHE: | 0.45 0.22 M S 12-HR 0.05 0.11 0.20 0.07 0.07 | /// | 0.62 0.23 M 24-HR 0.05 0.11 0.20 0.07 |
| MKGH1: :ISLAND:ID KMLH1: MKPH1: MLKH1: KACH1: HMK: : :ISLAND:ID | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (HI73) MAKAPULAPAI MOLOKAI 1 KAUNAKAKAI MAUKA (HI71) MOLOKAI AIRPORT OF LANAI LOCATION | : 3- : 0. : 0. : 0. : 0. | 00 00 M HR 00 00 00 00 | / / / / / / | 0.01 0.00 M ING 6-HR 0.00 0.00 0.00 0.00 0.03 ING 6-HR | / / / / / / / / / / | 0.45 0.22 M S 12-HR 0.05 0.11 0.20 0.07 0.07 | /// | 0.62 0.23 M 24-HR 0.05 0.11 0.20 0.07 0.07 |
| MKGH1: :ISLAND:ID KMLH1: MKPH1: MLKH1: KACH1: HMK: : :ISLAND:ID | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (H173) MAKAPULAPAI MOLOKAI 1 KAUNAKAKAI MAUKA (H171) MOLOKAI AIRPORT OF LANAI LOCATION LANAI CITY (H172) | : 3- : 0. : 0. : 0. : 0. | 00 00 M HR 00 00 00 00 00 | // // // // | 0.01 0.00 M IN0 6-HR 0.00 0.00 0.00 0.03 IN0 6-HR M | / / / / / / / / / / / | 0.45 0.22 M S 12-HR 0.05 0.11 0.20 0.07 0.07 | /// /////////////////////////////////// | 0.62 0.23 M 24-HR 0.05 0.11 0.20 0.07 0.07 |
| MKGH1: :ISLAND:ID KMLH1: MKPH1: MLKH1: KACH1: HMK: :ISLAND:ID LANH1: | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (H173) MAKAPULAPAI MOLOKAI 1 KAUNAKAKAI MAUKA (H171) MOLOKAI AIRPORT OF LANAI LOCATION LANAI CITY (H172) | : 3- : 0. : 0. : 0. : 0. | 00 00 M HR 00 00 00 00 00 | // // // // | 0.01 0.00 M IN0 6-HR 0.00 0.00 0.00 0.03 IN0 6-HR M | / / / / / / / / / / / | 0.45 0.22 M S 12-HR 0.05 0.11 0.20 0.07 0.07 | /// /////////////////////////////////// | 0.62 0.23 M 24-HR 0.05 0.11 0.20 0.07 0.07 |
| MKGH1: :ISLAND:ID KMLH1: MKPH1: MLKH1: KACH1: HMK: :ISLAND:ID LANH1: | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (H173) MAKAPULAPAI MOLOKAI 1 KAUNAKAKAI MAUKA (H171) MOLOKAI AIRPORT OF LANAI LOCATION LANAI CITY (H172) | : 3- : 0. : 0. : 0. : 0. | 00 00 M HR 00 00 00 00 00 | // // // // | 0.01 0.00 M IN0 6-HR 0.00 0.00 0.00 0.03 IN0 6-HR M | / / / / / / / / / / / | 0.45 0.22 M S 12-HR 0.05 0.11 0.20 0.07 0.07 | /// /////////////////////////////////// | 0.62 0.23 M 24-HR 0.05 0.11 0.20 0.07 0.07 |
| MKGH1: :ISLAND:ID KMLH1: MKPH1: MLKH1: KACH1: HMK: :ISLAND: ID LANH1: LNIH1: | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (H173) MAKAPULAPAI MOLOKAI 1 KAUNAKAKAI MAUKA (H171) MOLOKAI AIRPORT OF LANAI LOCATION LANAI CITY (H172) | : 3- : 0. : 0. : 0. : 0. | 00 00 M HR 00 00 00 00 00 | // // // // | 0.01 0.00 M IN0 6-HR 0.00 0.00 0.00 0.03 IN0 6-HR M | / / / / / / / / / / / / / / / / / / / | 0.45 0.22 M S 12-HR 0.05 0.11 0.20 0.07 0.07 S 12-HR M | /// /////////////////////////////////// | 0.62 0.23 M 24-HR 0.05 0.11 0.20 0.07 0.07 |
| MKGH1: :ISLAND:ID KMLH1: MKPH1: MLKH1: KACH1: HMK: :ISLAND:ID LANH1: LNIH1: :ISLAND:ID | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (H173) MAKAPULAPAI MOLOKAI 1 KAUNAKAKAI MAUKA (H171) MOLOKAI AIRPORT OF LANAI LOCATION LANAI CITY (H172) LANAI 1 OF KAHOOLAWE LOCATION | : 3- : 0. : 0. : 0. : 0. : 0. | 00 00 M HR 00 00 00 00 00 00 HR M | // // // // | 0.01 0.00 M IN0 6-HR 0.00 0.00 0.00 0.03 IN0 6-HR M 0.00 | / / / CHE: / / / CHE: | 0.45 0.22 M S 12-HR 0.05 0.11 0.20 0.07 0.07 S 12-HR M 0.07 | | 0.62 0.23 M 24-HR 0.05 0.11 0.20 0.07 0.07 |
| MKGH1: :ISLAND:ID KMLH1: MKPH1: MLKH1: KACH1: HMK: :ISLAND:ID LANH1: LNIH1: :ISLAND:ID | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (H173) MAKAPULAPAI MOLOKAI 1 KAUNAKAKAI MAUKA (H171) MOLOKAI AIRPORT OF LANAI LOCATION LANAI CITY (H172) LANAI 1 OF KAHOOLAWE LOCATION | : 3- : 0. : 0. : 0. : 0. : 0. | 00 00 M HR 00 00 00 00 00 00 HR M | // // // // | 0.01 0.00 M IN0 6-HR 0.00 0.00 0.00 0.03 IN0 6-HR M 0.00 | / / / CHE: / / / CHE: | 0.45 0.22 M S 12-HR 0.05 0.11 0.20 0.07 0.07 S 12-HR M 0.07 | | 0.62 0.23 M 24-HR 0.05 0.11 0.20 0.07 0.07 |
| MKGH1: :ISLAND:ID KMLH1: MKPH1: MLKH1: KACH1: HMK: :ISLAND:ID LANH1: LNIH1: :ISLAND:ID | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (H173) MAKAPULAPAI MOLOKAI 1 KAUNAKAKAI MAUKA (H171) MOLOKAI AIRPORT OF LANAI LOCATION LANAI CITY (H172) LANAI 1 OF KAHOOLAWE LOCATION | : 3- : 0. : 0. : 0. : 0. : 0. | 00 00 M HR 00 00 00 HR 00 00 HR 01 | / / / / / / | 0.01 0.00 M ING 6-HR 0.00 0.00 0.03 ING 6-HR M 0.00 ING 6-HR | / / / CHE: / / / / CHE: | 0.45 0.22 M S 12-HR 0.05 0.11 0.20 0.07 0.07 S 12-HR M 0.07 | | 0.62 0.23 M 24-HR 0.05 0.11 0.20 0.07 0.07 |
| MKGH1: :ISLAND :ID KMLH1: MKPH1: MLKH1: KACH1: HMK: :ISLAND :ID LANH1: LNIH1: ::ISLAND :ID KRTH1: HKAH1: | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (HI73) MAKAPULAPAI MOLOKAI 1 KAUNAKAKAI MAUKA (HI71) MOLOKAI AIRPORT OF LANAI LOCATION LANAI CITY (HI72) LANAI 1 OF KAHOOLAWE LOCATION KAHOOLAWE ARC | : 3- : 0. : 0. : 0. : 0. : 0. | 00 00 M HR 00 00 00 HR 00 00 HR 01 | / / / / / / | 0.01 0.00 M ING 6-HR 0.00 0.00 0.03 ING 6-HR M 0.00 ING 6-HR | / / / CHE: / / / / CHE: | 0.45 0.22 M S 12-HR 0.05 0.11 0.20 0.07 0.07 S 12-HR M 0.07 | | 0.62 0.23 M 24-HR 0.05 0.11 0.20 0.07 0.07 |
| MKGH1: : ISLAND : ID KMLH1: MKPH1: MLKH1: KACH1: HMK: : ISLAND : ID LANH1: LNIH1: : ISLAND : ID KRTH1: HKAH1: | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (H173) MAKAPULAPAI MOLOKAI 1 KAUNAKAKAI MAUKA (H171) MOLOKAI AIRPORT OF LANAI LOCATION LANAI CITY (H172) LANAI 1 OF KAHOOLAWE LOCATION KAHOOLAWE ARC HONOKANAIA | : 3- : 0. : 0. : 0. : 0. : 0. | 00 00 M HR 00 00 00 HR 00 00 HR 01 | / / / / / / | 0.01 0.00 M ING 6-HR 0.00 0.00 0.03 ING 6-HR 0.00 ING 6-HR 0.00 | / / / / / / / / / / / / / / / / / / / | 0.45 0.22 M S 12-HR 0.05 0.11 0.20 0.07 0.07 S 12-HR M 0.07 S | | 0.62 0.23 M 24-HR 0.05 0.11 0.20 0.07 0.07 |
| MKGH1: : ISLAND : ID KMLH1: MKPH1: MLKH1: KACH1: HMK: : ISLAND : ID LANH1: LNIH1: : ISLAND : ID KRTH1: HKAH1: HKAH1: : ISLAND | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (H173) MAKAPULAPAI MOLOKAI 1 KAUNAKAKAI MAUKA (H171) MOLOKAI AIRPORT OF LANAI LOCATION LANAI CITY (H172) LANAI 1 OF KAHOOLAWE LOCATION KAHOOLAWE ARC HONOKANAIA | : 3- : 0. : 0. : 0. : 0. : 0. | 00 00 M HR 00 00 00 00 00 HR M 00 | | 0.01 0.00 M ING 6-HR 0.00 0.00 0.03 ING 6-HR 0.00 ING 6-HR 0.00 | / / / CHE: / / CHE: / / CHE: | 0.45 0.22 M S 12-HR 0.05 0.11 0.20 0.07 0.07 S 12-HR M 0.07 S | | 0.62 0.23 M 24-HR 0.05 0.11 0.20 0.07 0.07 |
| MKGH1: : ISLAND : ID KMLH1: MKPH1: MLKH1: KACH1: HMK: : ISLAND : ID LANH1: LNIH1: : ISLAND : ID KRTH1: HKAH1: : ISLAND : ID | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (H173) MAKAPULAPAI MOLOKAI 1 KAUNAKAKAI MAUKA (H171) MOLOKAI AIRPORT OF LANAI LOCATION LANAI CITY (H172) LANAI 1 OF KAHOOLAWE LOCATION KAHOOLAWE ARC HONOKANAIA OF MAUI LOCATION | : 3- : 0. : 0. : 0. : 0. : 0. | 00 00 M HR 00 00 00 00 00 HR M 00 | | 0.01 0.00 M ING 6-HR 0.00 0.00 0.03 ING 6-HR 0.00 ING 6-HR 0.00 | / / / CHE: / / CHE: / / CHE: | 0.45 0.22 M S 12-HR 0.05 0.11 0.20 0.07 0.07 S 12-HR M 0.07 S | | 0.62 0.23 M 24-HR 0.05 0.11 0.20 0.07 0.07 |
| MKGH1: : ISLAND : ID KMLH1: MKPH1: MLKH1: KACH1: HMK: : ISLAND : ID LANH1: LNIH1: : ISLAND : ID KRTH1: HKAH1: : ISLAND : ID KRTH1: HKAH1: : ISLAND | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (H173) MAKAPULAPAI MOLOKAI 1 KAUNAKAKAI MAUKA (H171) MOLOKAI AIRPORT OF LANAI LOCATION LANAI CITY (H172) LANAI 1 OF KAHOOLAWE LOCATION KAHOOLAWE ARC HONOKANAIA OF MAUI LOCATION WINDWARD SITES | : 3- : 0. : 0. : 0. : 0. : 0. : 0. | 00 00 M HR 00 00 00 00 00 HR M 00 HR | | 0.01 0.00 M ING 6-HR 0.00 0.00 0.03 ING 6-HR 0.00 ING 6-HR 0.01 0.00 | / / / / / / / / / / / / / CHE: / / / / CHE: | 0.45 0.22 M S 12-HR 0.05 0.11 0.20 0.07 0.07 S 12-HR 0.07 S 12-HR 0.01 0.00 | | 0.62 0.23 M 24-HR 0.05 0.11 0.20 0.07 0.07 24-HR 0.01 0.00 |
| MKGH1: : ISLAND : ID KMLH1: MKPH1: MLKH1: KACH1: HMK: : ISLAND : ID LANH1: LNIH1: : ISLAND : ID KRTH1: HKAH1: : ISLAND : ID KRTH1: HKAH1: : ISLAND : ID | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (H173) MAKAPULAPAI MOLOKAI 1 KAUNAKAKAI MAUKA (H171) MOLOKAI AIRPORT OF LANAI LOCATION LANAI CITY (H172) LANAI 1 OF KAHOOLAWE LOCATION KAHOOLAWE ARC HONOKANAIA OF MAUI LOCATION WINDWARD SITES OHEO GULCH (USGS) | : 3- : 0. : 0. : 0. : 0. : 0. : 3- : 0. | 00 00 M HR 00 00 00 00 00 HR 01 00 HR | | 0.01 0.00 M ING 6-HR 0.00 0.00 0.03 ING 6-HR 0.00 ING 6-HR 0.01 0.00 | / / / / / / / / / / / / / / CHE: / / / / / / / / / / / / / / / / / / / | 0.45 0.22 M S 12-HR 0.05 0.11 0.20 0.07 S 12-HR 0.07 S 12-HR 0.01 0.00 S | | 0.62 0.23 M 24-HR 0.05 0.11 0.20 0.07 0.07 24-HR 0.01 0.00 24-HR |
| MKGH1: : ISLAND : ID KMLH1: MKPH1: MLKH1: KACH1: HMK: : ISLAND : ID LANH1: LNIH1: : ISLAND : ID KRTH1: HKAH1: : ISLAND : ID KRTH1: HKAH1: : ISLAND : ID | MAKUA RIDGE OF MOLOKAI LOCATION KAMALO (H173) MAKAPULAPAI MOLOKAI 1 KAUNAKAKAI MAUKA (H171) MOLOKAI AIRPORT OF LANAI LOCATION LANAI CITY (H172) LANAI 1 OF KAHOOLAWE LOCATION KAHOOLAWE ARC HONOKANAIA OF MAUI LOCATION WINDWARD SITES | : 3- : 0. : 0. : 0. : 0. : 0. : 3- : 0. | 00 00 M HR 00 00 00 00 00 HR 01 00 HR | | 0.01 0.00 M ING 6-HR 0.00 0.00 0.03 ING 6-HR 0.00 ING 6-HR 0.01 0.00 | / / / / / / / / / / / / / CHE: / / / / / CHE: / / | 0.45 0.22 M S 12-HR 0.05 0.11 0.20 0.07 S 12-HR 0.07 S 12-HR 0.01 0.00 S | | 0.62 0.23 M 24-HR 0.05 0.11 0.20 0.07 0.07 24-HR 0.01 0.00 |

ATTACHMENT 3-4

Daily Site Summary Report (DH1)

| □ □ | lonolulu Site 1 | | |
|----------------------------------|-----------------|--------------|--------------------|
| Thursday 31 December 2009 | Julian Date 365 | (Local Time) | Clock Hours |

| Param Units FS Zero Chan | CO PPM 50.0 0.0 | PM10 ug/m3 995 -5 | PM2.5 ug/m3 985 -15 | \$02 PPB 500 0 | TEMPi degC 50.0 0.0 03 | WD DEG 360 0 | WS MPH 100.0 0.0 06 | |
|----------------------------------------------|----------------------------------------|-----------------------------------|-------------------------------------|-------------------------|----------------------------------------------|----------------------------------------|----------------------------------------|--|
| 0000 0100 0200 0300 0400 0500 | 0.3 0.3 0.4 0.3 0.4 | 6 7 5 4 7 8 | 7 8 7 4 3 2 | 1 1 1 1 1 | 25.2 25.0 25.2 25.5 25.3 25.5 | 199 133 175 211 173 225 | 0.3 0.2 0.2 0.1 0.5 | |
| 0600 0700 0800 0900 1000 1100 | 0.6 0.5 0.5 0.4 0.5 | 16 9 12 12 18 4 | 1 5 4 3 4 3 | 1 1 1 1 1 | 25.3 25.3 25.1 24.9 24.8 24.2 | 203 216 221 226 225 224 | 0.5 2.5 4.0 5.7 3.2 5.7 | |
| 1200 1300 1400 1500 1600 1700 | 0.3 0.3 0.3 0.3 0.3 | 7 12 17 10 12 22 | 3 4 3 5 7 | 1 1 1 1 1 | 24.1 23.9 23.9 24.0 24.4 24.7 | 222 228 238 235 244 242 | 6.7 4.6 4.8 4.5 4.4 | |
| 1800 1900 2000 2100 2200 2300 | 0.3 0.3 0.3 0.3 0.4 0.4 | 21 20 22 15 31 203 | 7 6 6 7 6 33 | 1 1 1 1 1 | 24.8 24.8 25.3 25.1 25.4 25.6 | 238 243 229 195 73 105 | 3.2 2.0 1.8 2.9 1.5 | |
| Min Hr Max Hr 24hr Av | 0.3 0.6 0.4 | 4 203 21 | 1 33 6 | 1 1 1 | 23.9 25.6 24.9 | 73 244 205 | 0.1 6.7 2.7 | |

Flags: None

ATTACHMENT 3 -5

Daily Site Summary Report (DH1)

| | | Friday | 01 January | | nolulu Site lian Date 1 | | ne) Clock | Hours | |
|----------------------------------------------|----------------------------------------|-------------------------------------|-------------------------------------------|------------------------|----------------------------------------------|----------------------------------------|----------------------------------------|-------|--|
| Param Units FS Zero Chan | CO PPM 50.0 0.0 | PM10 ug/m3 995 -5 08 | PM2.5 ug/m3 985 -15 09 | SO2 PPB 500 0 | TEMPi degC 50.0 0.0 03 | WD DEG 360 0 | WS MPH 100.0 0.0 06 | | |
| 0000 0100 0200 0300 0400 0500 | 0.4 0.5 0.4 0.4 0.5 0.3 | 298 559 483 44 26 22 | 224 301 633 367 34 17 | 1 1 1 1 1 | 25.3 25.7 25.6 25.9 25.6 26.0 | 151 126 115 83 127 93 | 1.2 1.2 0.6 0.8 0.6 | | |
| 0600 0700 0800 0900 1000 1100 | 0.4 0.4 0.4 0.3 0.3 | 14 12 8 16 9 20 | 10 7 5 5 7 | 1 1 1 1 1 | 25.8 26.0 25.4 24.9 24.5 24.1 | 134 264 144 66 157 223 | 0.4 0.4 1.4 3.4 2.2 | | |
| 1200 1300 1400 1500 1600 1700 | 0.3 0.3 0.3 0.3 0.3 | 19 14 15 26 19 21 | 9 12 9 6 10 9 | 1 1 1 1 1 | 24.2 24.2 24.2 24.0 24.4 24.8 | 223 218 214 248 240 243 | 4.4 5.2 4.0 2.6 2.2 1.8 | | |
| 1800 1900 2000 2100 2200 2300 | 0.3 0.3 0.3 0.3 0.3 | 17 20 14 16 19 | 7 7 8 10 7 5 | 1 1 1 1 1 | 25.3 25.3 25.1 25.6 25.3 25.4 | 96 68 75 88 141 246 | 2.6 3.8 3.0 3.2 1.1 | | |
| Min Hr Max Hr 24hr Av | 0.3 0.5 0.3 | 8 559 72 | 5 633 71 | 1 1 1 | 24.0 26.0 25.1 | 66 264 158 | 0.4 5.2 2.1 | | |

Flags: None

ATTACHMENT 3-6

Daily Site Summary Report (SI2)

| Sa | and Island Site 2 | | |
|---------------------------|-------------------|--------------|--------------------|
| Thursday 31 December 2009 | Julian Date 365 (| (Local Time) | Clock Hours |

| Param Units FS Zero Chan | O3 PPB 1000 0 | PM2.5 ug/m3 985 -15 08 | TEMPi degC 50.0 0.0 03 | WD DEG 360 0 | WS MPH 100.0 0.0 06 | |
|----------------------------------------------|----------------------------------|-------------------------------------------|----------------------------------------------|----------------------------------------|----------------------------------------|--|
| 0000 0100 0200 0300 0400 0500 | 11C 5C 5 2 3 8 | 3 6 8 6 8 | 23.9 24.0 23.7 23.5 23.3 23.2 | 2 353 38 2 67 116 | 1.6 1.8 1.4 0.6 0.6 | |
| 0600 0700 0800 0900 1000 1100 | 15 23 26 27 28 27 | 5 3 2 5 7 4 | 23.2 23.4 23.8 25.2 25.8 26.5 | 174 182 187 200 217 208 | 1.2 2.1 2.7 5.0 3.8 4.7 | |
| 1200 1300 1400 1500 1600 1700 | 27 27 27 26 25 24 | 2 4 7 8 5 | 27.1 27.6 27.6 27.3 26.6 25.9 | 210 225 239 239 242 243 | 4.7 5.3 5.5 6.4 7.0 7.2 | |
| 1800 1900 2000 2100 2200 2300 | 23 23 23 18 6 3 | 6 4 5 21 73 | 25.2 24.9 24.6 24.4 23.9 23.7 | 246 253 253 306 324 348 | 6.2 5.3 5.8 5.8 1.8 2.4 | |
| Min Hr Max Hr 24hr Av | 2 28 18 | 2 73 9 | 23.2 27.6 24.9 | 2 353 203 | 0.6 7.2 3.7 | |

Flags: C = Calibration - Valid Hour

ATTACHMENT 3 -7

Daily Site Summary Report (SI2)

| | | | Friday | 01 January | | <mark>l Island S</mark> i ian Date 1 | ne) Cloc | k Hours | |
|---|----------------------------------------------|----------------------------------|-------------------------------------|----------------------------------------------|----------------------------------------|-----------------------------------------|----------|---------|--|
| | Param Units FS Zero Chan | O3 PPB 1000 0 | PM2.5 ug/m3 985 -15 08 | TEMPi degC 50.0 0.0 03 | WD DEG 360 0 | WS MPH 100.0 0.0 06 | | | |
| | 0000 0100 0200 0300 0400 0500 | 12C 3C 12 10 9 16 | 204 232 232 32 27 23 | 23.5 23.5 23.1 22.8 22.7 22.6 | 323 332 329 313 348 341 | 2.1 2.3 2.1 1.5 1.7 2.2 | | | |
| | 0600 0700 0800 0900 1000 | 13 11 20 34 34 38 | 7 8 9 7 8 7 | 22.5 22.5 22.6 23.2 24.2 25.0 | 358 354 21 26 28 197 | 2.7 2.7 1.8 4.0 3.7 3.8 | | | |
| | 1200 1300 1400 1500 1600 1700 | 42 41 41 41 40 38 | 5 6 7 6 4 4 | 25.8 26.1 26.5 26.4 26.2 25.6 | 200 196 185 214 209 182 | 4.1 4.2 3.5 3.2 2.7 1.8 | | | |
| | 1800 1900 2000 2100 2200 2300 | 32 32 33 33 28 25 | 5 6 5 7 12 | 24.9 24.3 23.8 23.5 23.1 22.9 | 17 32 42 41 12 342 | 3.6 3.8 4.4 4.2 2.8 2.2 | | | |
| M | in Hr | 3 42 | 4 232 | 22.5 | 12 358 | 1.5 | | | |

24hr Av

Flags: C = Calibration - Valid Hour

36

24.1

193

27

3.0

ATTACHMENT 3-8

Pearl City Air Station Wind Data for December 31, 2009 - January 1, 2010

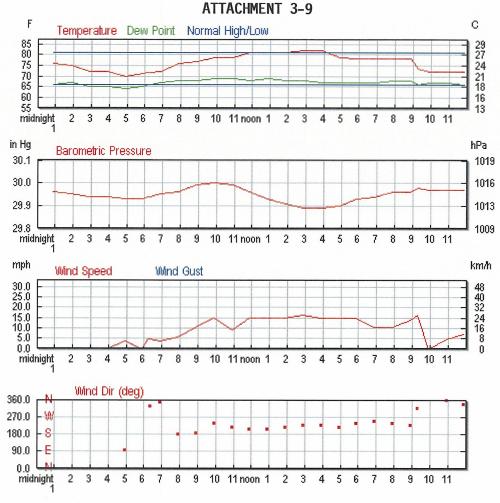
| Date and Time | Wind Direction | Wind Speed |
|--------------------------------------|----------------|---------------|
| | Degrees | Average - MPH |
| 12/31/2009 0:00 | 346 | 1.4 |
| 12/31/2009 1:00 | 358 | 1.4 |
| 12/31/2009 2:00 | 359 | 1.6 |
| 12/31/2009 3:00 | 22 | 0.8 |
| 12/31/2009 4:00 | 13 | 0.0 |
| 12/31/2009 5:00 | 40 | 0.5 |
| 12/31/2009 6:00 | 344 | 0.9 |
| 12/31/2009 7:00 | 342 | 1.2 |
| 12/31/2009 8:00 | 40 | 0.3 |
| 12/31/2009 9:00 | 201 | 1.0 |
| 12/31/2009 10:00 | 221 | 3.1 |
| 12/31/2009 11:00 | 232 | 5.8 |
| 12/31/2009 12:00 | 210 | 5.8 |
| 12/31/2009 13:00 | 212 | 7.1 |
| 12/31/2009 14:00 | 217 | 7.4 |
| 12/31/2009 15:00 | 230 236 | 6.4 6.4 |
| 12/31/2009 16:00 12/31/2009 17:00 | 230 247 | 6.6 |
| 12/31/2009 17:00 | 265 | 4.1 |
| 12/31/2009 19:00 | 200 | 3.4 |
| 12/31/2009 20:00 | 168 | 2.8 |
| 12/31/2009 21:00 | 205 | 3.4 |
| 12/31/2009 22:00 | 5 | 4.4 |
| 12/31/2009 23:00 | 5 | 1.4 |
| 1/1/2010 0:00 | 332 | 2.8 |
| 1/1/2010 1:00 | 24 | 2.9 |
| 1/1/2010 2:00 | 6 | 2.8 |
| 1/1/2010 3:00 | 348 | 1.1 |
| 1/1/2010 4:00 | 350 | 2.0 |
| 1/1/2010 5:00 | 339 | 2.1 |
| 1/1/2010 6:00 | 355 | 2.0 |
| 1/1/2010 7:00 | 1 | 1.3 |
| 1/1/2010 8:00 | 330 | 2.0 |
| 1/1/2010 9:00 | 238 | 0.5 |
| 1/1/2010 10:00 | 359 | 3.4 |
| 1/1/2010 11:00 | 21 | 3.5 |
| 1/1/2010 12:00 1/1/2010 13:00 | 65 | 1.9 |
| 1/1/2010 13:00 | 200 177 | 3.3 7.0 |
| 1/1/2010 14:00 | 185 | 7.0 5.2 |
| 1/1/2010 15:00 | 163 | 7.5 |
| 1/1/2010 10:00 | 174 | 4.7 |
| 1/1/2010 17:00 | 329 | 4.2 |
| 1/1/2010 19:00 | 339 | 3.0 |
| 1/1/2010 20:00 | 339 | 3.5 |
| 1/1/2010 21:00 | 344 | 3.5 |
| 1/1/2010 22:00 | 335 | 3.3 |
| 1/1/2010 23:00 | 335 | 4.0 |

ATTACHMENT 3-9

History for Honolulu, HI Thursday, December 31, 2009

Daily Summary

| | Actual: | Average : | Record : |
|--------------------------------------------------------------|-----------------|----------------|-----------------------|
| Temperature: | | | |
| Mean Temperature | 77 °F | 74 °F | |
| Max Temperature | 83 °F | 81 °F | 85 °F (1986) |
| Min Temperature | 70 °F | 66 °F | 56 °F (1958) |
| Degree Days: | | | |
| Heating Degree Days | 0 | 0 | |
| Month to date heating degree days | 0 | 0 | |
| Since 1 July heating degree days | 0 | 0 | |
| Cooling Degree Days | 12 | 9 | |
| Month to date cooling degree days | 288 | 303 | |
| Year to date cooling degree days | 4399 | 4561 | |
| Growing Degree Days | 26 (Base 50) | | |
| Moisture: | | | |
| Dew Point | 67 °F | | |
| Average Humidity | 71 | | |
| Maximum Humidity | 84 | | |
| Minimum Humidity | 58 | | |
| Precipitation: | | | |
| Precipitation | 0.01 in | 0.09 in | 2.50 in (1951) |
| Month to date precipitation | 0.75 | 2.85 | |
| Year to date precipitation | 11.55 | 18.29 | |
| Snow: | | | |
| Snow | 0.00 in | - | - () |
| Month to date snowfall | 0.0 | | |
| Since 1 July snowfall | 0.0 | | |
| Snow Depth | 0.00 in | | |
| Sea Level Pressure: | | | |
| Sea Level Pressure | 29.95 in | | |
| Wind: | | | |
| Wind Speed | 8 mph (WSW) | | |
| Max Wind Speed | 23 mph | | |
| Max Gust Speed | 26 mph | | |
| Visibility | 10 miles | | |
| Events | Rain | | |
| T = Trace of Precipitation, MM = Missing Value | | Sourc | e: NWS Daily Summa |



Hourly Observations

| Time (HST): | Temp.: | Dew Point: | Humidity: | Sea Level Pressure: | Visibility: | Wind Dir: | Wind Speed: | Gust Speed: | Precip: Events: | Conditions: |
|----------------|----------------|----------------|-----------|------------------------|-------------------|--------------|-----------------|----------------|-----------------|---------------------|
| 12:53 AM | 75.9 °F | 66.0 °F | 71% | 29.96 in | 10.0 miles | Calm | Calm | - | N/A | Mostly Cloudy |
| 1:53 AM | 75.0 °F | 66.9 °F | 76% | 29.95 in | 10.0 miles | Calm | Calm | - | N/A | Mostly Cloudy |
| 2:53 AM | 72.0 °F | 64.9 °F | 78% | 29.94 in | 10.0 miles | Calm | Calm | - | N/A | Scattered Clouds |
| 3:53 AM | 72.0 °F | 64.9 °F | 78% | 29.94 in | 10.0 miles | Calm | Calm | - | N/A | Partly Cloudy |
| 4:53 AM | 70.0 °F | 64.0 °F | 81% | 29.93 in | 10.0 miles | East | 3.5 mph | - | N/A | Partly Cloudy |
| 5:53 AM | 71.1 °F | 64.9 °F | 81% | 29.93 in | 10.0 miles | Calm | Calm | - | N/A | Scattered Clouds |
| 6:11 AM | 71.6 °F | 66.2 °F | 83% | 29.94 in | 10.0 miles | Variable | 4.6 mph | - | N/A | Mostly Cloudy |
| 6:20 AM | 71.6 °F | 66.2 °F | 83% | 29.94 in | 10.0 miles | NNW | 4.6 mph | - | N/A | Scattered Clouds |
| 6:53 AM | 72.0 °F | 66.9 °F | 84% | 29.95 in | 10.0 miles | North | 3.5 mph | - | N/A | Scattered Clouds |
| 7:53 AM | 75.9 °F | 68.0 °F | 76% | 29.96 in | 10.0 miles | South | 5.8 mph | - | N/A | Scattered Clouds |
| 8:53 AM | 77.0 °F | 68.0 °F | 74% | 29.99 in | 10.0 miles | South | 10.4 mph | - | N/A | Mostly Cloudy |
| 9:53 | 79.0 °F | 69.1 °F | 72% | 30.00 in | 10.0 miles | WSW | 15.0 mph | - | 0.00 in | Mostly |

| AM | | | ATTACHMENT 3 | 3-9 | | Cloudy |
|-------------|-----------------------------------|-----------------|-----------------|-------------------|---------------------|---------------------|
| 10:53 AM | 79.0 °F 69.1 °F 72% | 29.99 in | 10.0 miles SW | 9.2 mph - | N/A | Mostly Cloudy |
| 11:53 AM | 81.0 °F 68.0 °F 65% | 29.96 in | 10.0 miles SSW | 15.0 mph - | N/A | Scattered Clouds |
| 12:53 PM | 81.0 °F 69.1 °F 67% | 29.93 in | 10.0 miles SSW | 15.0 mph - | N/A | Mostly Cloudy |
| 1:53 PM | 81.0 °F 68.0 °F 65% | 29.91 in | 10.0 miles SW | 15.0 mph 23.0 mph | N/A | Mostly Cloudy |
| 2:53 PM | 82.0 °F 68.0 °F 62% | 29.89 in | 10.0 miles SW | 16.1 mph - | N/A | Scattered Clouds |
| 3:53 PM | 82.0 °F 66.9 °F 60% | 29.89 in | 10.0 miles SW | 15.0 mph 23.0 mph | N/A | Scattered Clouds |
| 4:53 PM | 79.0 °F 66.9 °F 66% | 29.90 in | 10.0 miles SW | 15.0 mph - | N/A | Scattered Clouds |
| 5:53 PM | 78.1 °F 66.9 °F 68% | 29.93 in | 10.0 miles WSW | 15.0 mph - | N/A | Scattered Clouds |
| 6:53 PM | 78.1 °F 66.9 °F 68% | 29.94 in | 10.0 miles WSW | 10.4 mph - | N/A | Scattered Clouds |
| 7:53 PM | 78.1 °F 68.0 °F 71% | 29.96 in | 10.0 miles WSW | 10.4 mph - | N/A | Scattered Clouds |
| 8:53 PM | 78.1 °F 68.0 °F 71% | 29.96 in | 10.0 miles SW | 13.8 mph - | N/A | Scattered Clouds |
| 9:16 PM | 73.4 °F 66.2 °F 78% | 29.98 in | 9.0 miles NW | 16.1 mph - | 0.00 in Rain | Light Rain |
| 9:53 PM | 72.0 °F 66.9 °F 84% | 29.97 in | 9.0 miles Calm | Calm - | 0.00 in | Scattered Clouds |
| 10:53 PM | 72.0 °F 66.9 °F 84% | 29.97 in | 6.0 miles North | 4.6 mph - | N/A | Haze |
| 11:53 PM | 72.0 °F 66.0 °F 81% | 29.97 in | 4.0 miles NNW | 6.9 mph - | 0.01 in Rain | Light Rain |



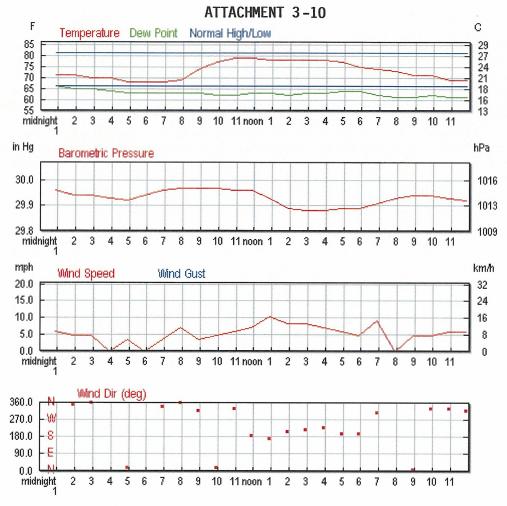
Copyright © 2010 Weather Underground, Inc.

ATTACHMENT 3-10

History for Honolulu, HI Friday, January 1, 2010

Daily Summary

| | Actual: | Average : | Record : |
|--------------------------------------------------------------|-------------------|----------------|-----------------------|
| Temperature: | | | |
| Mean Temperature | 74 °F | 73 °F | |
| Max Temperature | 80 °F | 81 °F | 85 °F (1987) |
| Min Temperature | 67 °F | 66 °F | 55 °F (1973) |
| Degree Days: | | | |
| Heating Degree Days | 0 | 0 | |
| Month to date heating degree days | 0 | 0 | |
| Since 1 July heating degree days | 0 | 0 | |
| Cooling Degree Days | 9 | 9 | |
| Month to date cooling degree days | 9 | 9 | |
| Year to date cooling degree days | 9 | 9 | |
| Growing Degree Days | 24 (Base 50) | | |
| Moisture: | | | |
| Dew Point | 63 °F | | |
| Average Humidity | 71 | | |
| Maximum Humidity | 84 | | |
| Minimum Humidity | 58 | | |
| Precipitation: | | | |
| Precipitation | T in | 0.09 in | 1.61 in (2005) |
| Month to date precipitation | T | 0.09 | |
| Year to date precipitation | Т | 0.09 | |
| Snow: | | | |
| Snow | 0.00 in | - | - () |
| Month to date snowfall | 0.0 | | |
| Since 1 July snowfall | 0.0 | | |
| Snow Depth | 0.00 in | | |
| Sea Level Pressure: | | | |
| Sea Level Pressure | 29.93 in | | |
| Wind: | | | |
| Wind Speed | 5 mph (NW) | | |
| Max Wind Speed | 12 mph | | |
| Max Gust Speed | 14 mph | | |
| Visibility | 10 miles | | |
| Events | | | |
| T = Trace of Precipitation, MM = Missing Value | | Sourc | e: NWS Daily Sumn |



Hourly Observations

| Time (HST): | Temp.: | Dew Point: | Humidity: | Sea Level Pressure: | Visibility: | Wind Dir: | Wind Speed: | Gust Speed: | Precip: Events: | Conditions: |
|----------------|----------------|----------------|-----------|------------------------|-------------------|--------------|----------------|----------------|-----------------|---------------------|
| 12:53 AM | 71.1 °F | 66.0 °F | 84% | 29.96 in | 8.0 miles | North | 5.8 mph | - | 0.00 in | Scattered Clouds |
| 1:53 AM | 71.1 °F | 64.9 °F | 81% | 29.94 in | 10.0 miles | North | 4.6 mph | - | N/A | Partly Cloudy |
| 2:53 AM | 70.0 °F | 64.9 °F | 84% | 29.94 in | 9.0 miles | North | 4.6 mph | - | N/A | Partly Cloudy |
| 3:53 AM | 70.0 °F | 64.0 °F | 81% | 29.93 in | 10.0 miles | Calm | Calm | - | N/A | Partly Cloudy |
| 4:53 AM | 68.0 °F | 63.0 °F | 84% | 29.92 in | 10.0 miles | NNE | 3.5 mph | _ | N/A | Partly Cloudy |
| 5:53 AM | 68.0 °F | 63.0 °F | 84% | 29.94 in | 10.0 miles | Calm | Calm | - | N/A | Partly Cloudy |
| 6:53 AM | 68.0 °F | 63.0 °F | 84% | 29.96 in | 10.0 miles | NNW | 3.5 mph | _ | N/A | Partly Cloudy |
| 7:53 AM | 69.1 °F | 63.0 °F | 81% | 29.97 in | 10.0 miles | North | 6.9 mph | - | N/A | Scattered Clouds |
| 8:53 AM | 73.9 °F | 63.0 °F | 68% | 29.97 in | 10.0 miles | NW | 3.5 mph | - | N/A | Scattered Clouds |
| 9:53 AM | 77.0 °F | 62.1 °F | 60% | 29.97 in | 10.0 miles | NNE | 4.6 mph | - | N/A | Scattered Clouds |
| 10:53 AM | 79.0 °F | 62.1 °F | 56% | 29.96 in | 10.0 miles | NNW | 5.8 mph | - | N/A | Scattered Clouds |
| 11:53 | 79.0 °F | 63.0 °F | 58% | 29.96 in | 10.0 miles | South | 6.9 mph | - | N/A | Scattered |

| AM | | | ATTACHMENT 3 | -10 | | | Clouds |
|-------------|-----------------------------------|-------------------|-----------------------------------------|-----------------|---|-----|---------------------|
| 12:53 PM | 78.1 °F 63.0 °F 60% | % 29.93 in | 10.0 miles South | 10.4 mph | - | N/A | Scattered Clouds |
| 1:53 PM | 78.1 °F 62.1 °F 58% | % 29.89 in | 10.0 miles SSW | 8.1 mph | - | N/A | Scattered Clouds |
| 2:53 PM | 78.1 °F 63.0 °F 60% | % 29.88 in | 10.0 miles SW | 8.1 mph | - | N/A | Scattered Clouds |
| 3:53 PM | 78.1 °F 63.0 °F 60% | % 29.88 in | 10.0 miles SW | 6.9 mph | - | N/A | Partly Cloudy |
| 4:53 PM | 77.0 °F 64.0 °F 64% | % 29.89 in | 10.0 miles SSW | 5.8 mph | | N/A | Scattered Clouds |
| 5:53 PM | 75.0 °F 64.0 °F 69% | 6 29.89 in | 10.0 miles SSW | 4.6 mph | - | N/A | Partly Cloudy |
| 6:53 PM | 73.9 °F 62.1 °F 66% | 6 29.91 in | 10.0 miles NW | 9.2 mph | - | N/A | Partly Cloudy |
| 7:53 PM | 73.0 °F 61.0 °F 66% | 6 29.93 in | 10.0 miles Calm | Calm | _ | N/A | Partly Cloudy |
| 8:53 PM | 71.1 °F 61.0 °F 70% | 29.94 in | 10.0 miles North | 4.6 mph | - | N/A | Partly Cloudy |
| 9:53 PM | 71.1 °F 62.1 °F 73% | 29.94 in | 10.0 miles NNW | 4.6 mph | - | N/A | Partly Cloudy |
| 10:53 PM | 69.1 °F 61.0 °F 75% | 29.93 in | 10.0 miles NNW | 5.8 mph | - | N/A | Partly Cloudy |
| 11:53 PM | 69.1 °F 61.0 °F 75% | 29.92 in | 10.0 miles NW | 5.8 mph | - | N/A | Scattered Clouds |
| | | | *************************************** | | | | |



Copyright © 2010 Weather Underground, Inc.

Attachment 4

News Media Articles Pertaining to the New Year's Fireworks Celebration

Find it: Site Map | Coupons | Weekly Deals | Apartments | Dating | Jobs | Cars | Real estate | Classified ads | Subscribe



SEARCH ALL GOOD News Archives Calendar More >

HOME LOCAL NEWS SPORTS BUSINESS MY ADVERTISER ISLAND LIFE TGIF OPINION MULTIMEDIA BLOGS/FORUMS CLASSIFIED ADS HELP

Breaking news Blogs Traffic Weather Salute to the Fallen FYI Advertiser Special projects Obituaries Back issues Archive

HAWAITS Complete SOURCE

LOCAL NEWS

Posted on: Thursday, December 31, 2009

Haze may worsen breathing issues

Fireworks mixed with light winds hurt air quality

· Fireworks found in luggage

Print this page E-mail this article Share

By Michael Tsai Advertiser Staff Writer

Tonight is shaping up to be a particularly challenging New Year's Eve celebration for the 13 percent of the state population who suffer from breathing difficulties.

The National Weather Service is predicting widespread haze, partly cloudy skies and northwesterly winds of just 6 mph tonight — the sort of perfect lull dreaded by people with asthma and other breathing problems as legal and illegal fireworks release lung-troubling particulates into the air.

"When you combine that with air quality that has already been compromised with voggy conditions and the brushfires on the Big Island, it only adds to the degradation," said Jean Evans, executive director of the American Lung Association in Hawai'i. "It's going to be a very difficult night for a lot of people."

The Lung Association estimates that some 175,000 people in Hawai'i suffer from breathing difficulties. In the most serious cases, breathing problems triggered or exacerbated by fireworks smoke can lead to respiratory arrest and even death.

While the organization does not track the number of emergency room visits on New Year's Eve or the Fourth of July, Evans said there is ample anecdotal evidence of Hawai'i residents seeking emergency help for breathing problems whenever fireworks are widely used.

"We understand fireworks sales have been pretty good this year and there are always a lot of illegal aerials and other fireworks that are hard to regulate," Evans said. "It's a hard night to avoid, especially on O'ahu. Hopefully, families and neighbors will be kind to each other and keep in mind those who have breathing difficulties, especially the elderly and the very young."

The state Department of Health will once again be monitoring air quality during New Year's and comparing it to national ambient air quality standards.

Breathing hazards aren't just confined to the limited hours during which fireworks are allowed to be used. In Pearl City, Salt Lake, Pālolo Valley and many other areas of the island, fireworks have been illegally set off weeks, even months, in advance of tonight's celebrations. And, as Evans noted, elevated levels of particulates in the air can continue to bother those with respiratory problems for several days after New Year's, depending on weather conditions.

Reach Michael Tsai at mtsai@honoluluadvertiser.com.

HonoluluAdvertiser.com welcomes comments from readers. Please be advised that comments deemed to be vulgar racist, spam or personal attacks will be deleted. Users are blocked after repeated violations of our posting



Legal and illegal fireworks combined with widespread haze and light winds tonight may bring trouble for those who suffer from breathing difficulties.

Advertiser library photo

BREATHE EASIER

The state Department of Health and the American Lung Association in Hawai'i recommend that people with respiratory problems consider the following precautionary measures:

- Stay indoors with doors and windows closed and set air-conditioning units to recirculate.
- Make sure that air conditioning and air filter units are working properly and change filters if necessary.
- Do not smoke. Avoid secondhand smoke.
- If you take medication, make sure you have an adequate supply of medication and/or rescue inhalers.
- Avoid people who have colds or other lung infections and wash hands thoroughly.
- Drink plenty of fluids, preferably warm beverages, to loosen mucus.
- Rest well and limit physical exertion.
- Avoid barbecues

More News headlines

Mass. win elates Island GOP (77)

Records reveal earlier break-ins

Funding rail won't hurt buses (47)

Hawaii's budget deficit sets tone at Legislature's opening (83)

Military in Hawaii has big plans for solar power at base (23)

Find it: Site Map | Coupons | Weekly Deals | Apartments | Dating | Jobs | Cars | Real estate | Classified

honoluluarivarisar

| | All | Local News | Archives | Calendar | wore » | |
|--------|--------------|------------|----------|----------|--------|-------|
| SEARCH | ************ | | | | | _4500 |
| ALL | | | | | | CIC |
| | ţ | | | | j | 2 |

HOME LOCAL NEWS SPORTS BUSINESS MY ADVERTISER ISLAND LIFE TGIF OPINION MULTIMEDIA BLOGS/FORUMS CLASSIFIED ADS HELP

HAWARI'S Complete

BREAKING NEWS/UPDATES

Updated at 9:51 a.m., Thursday, December 31, 2009

Fireworks smoke could linger through night, weather service says

Print this page

E-mail this article

Share

Advertiser Staff

The National Weather Service says a weak front advancing across the Islands is expected to bring clouds and showers to Kauai and Oahu later today and into the night.

But don't expect much relief from fireworks-generated smoke.

"Showers, if any, will be limited as synoptic conditions remain unfavorable," the weather service says in its area forecast discussion. "Winds will remain more on the lighter side even with the passage of the weak front. Hence locally created smoke from the (New Year's) celebration will probably linger across the Islands overnight.

"A weak high pressure behind this front is expected to bring northerly trade winds over the area later Friday. Thus there may be a chance for the smoke as well as lingering vog to clear the Islands by the New Year."

Highs today will be 79 to 84 degrees. Winds will be variable to 15 mph.

Meanwhile, a northwest swell is expected to generate advisory-level surf along north- and west-facing shores of Niihau, Kauai, Oahu, Molokai and Maui and west-facing shores on the Big Island.

The advisory is in effect until 6 tonight.

Surf along north-facing shores will be 12 to 18 feet today before slowly subsiding.

Surf along west-facing shores will be 8 to 12 feet.

HonoluluAdvertiser.com welcomes comments from readers. Please be advised that comments deemed to be vulgar, racist, spam or personal attacks will be deleted. Users are blocked after repeated violations of our posting quidelines

In your voice |



Smoke from fireworks, as seen here in Kalihi last Eve, could linger long after the last blast, the Natio Weather Service says.

REBECCA BREYER I The Honolu

More Breaking news headlines

Senate schedules civil unions vote

Two hurt in possible Waialae-Kahala home ir

Strong winds buffet Isles

Hawaii gasoline prices rise again (1)

Omidyar names editor for Hawaii-based onlin service (4)

Breaking News alerts



Enter cell phone number to get breaking news text messages:

Sub

Message and data rates may apply. To opt out, t ϵ 4INFO (44636). For more information, text HELP (44636). Contact your carrier for more details.

Sign up for more alerts »

Find it: Site Map | Coupons | Weekly Deals | Apartments | Dating | Jobs

| П | пп | | m 0 | |
|----------|----|---------|--------|--------|
| - NAVAYA | | DEATH A | ariisa | 60000 |
| | | | | WALLE. |

| | All | Local News | Archives | Cale |
|---------------|-----|-------------------|----------|------|
| SEARCH ALL | | | | |
| | ţ | | | |

HOME LOCAL NEWS SPORTS BUSINESS MY ADVERTISER ISLAND LIFE TGIF OPINION MULTIMEDIA BLOGS/FORI

BREAKING NEWS/UPDATES

Updated at 3:41 p.m., Thursday, December 31, 2009

Fireworks permits up over last year

Print this page

E-mail this article

Share

Advertiser Staff

Satellite City Halls issued 7,433 fireworks permits as of yesterday, up from 6,200 last year.

Permits are still available until the close of business today. Fireworks sales end at midnight tonight.

This year's total reverses a three-year downward trend after permit issuance peaked with 13,525 in 2005.

Consumer fireworks may be legally set off from 9 p.m. tonight until 1 a.m. tomorrow, a four-hour window. The Honolulu Fire Department reminds residents that all aerial fireworks are illegal, as well as extremely dangerous.

Illegal fireworks use has been reported around the state in the weeks (in some cases months) leading up to tonight's celebration. The Honolulu Police Department today responded to complaints in the Mililani, Pearl City, and Tantalus areas.

The Waikiki Improvement Association is again sponsoring a New Year's fireworks show tonight off of Waikiki Beach. The show will be visible from all Waikiki beachfront areas as well as other areas of Honolulu.

More Brea

Senate sche

Two hurt in | (56)

Strong wind:

Hawaii gaso

Omidyar nar

service (

Breaking 1



Message and 4INFO (44636). Con

Sign up for

HonoluluAdvertiser.com welcomes comments from readers. Please be advised that comments deemed to be vulgar, racist, spam or personal attacks will be deleted. Users are blocked after repeated violations of our posting



News Sports Business Editorial Features HiLife Travel Multimedia



Homes Job

Kokua Line Ocean Watch Island Images Facts of the Matter Newswatch Police and Fire Surf Vital Statistics Corrections

Search

Search

Blogs



Take a Bite There's more to Sony Open than golf



Aperture Cafe Barack Obama



Fashion Tribe Roberta Oaks pistolpackin' mamas!



Fighting Words Boxing takes over Waipahu



Otaku Ohana U-TA-DA! U-TA-DA! U-TA ... oww.



Political Radar Opening Day



Quick Reads Mahalo, Junior Rainbows



UH Sports Extra Football California lineman commits to UH



UH Sports Extra Volleyball Hawaii sweeps UOP to conclude road tri...



Give us YOUR Weekly Opinion

Reader Poll



Do you think the state Legislature should pass HB 444, which provides for civil unions?

Vote Now!

Most Read

7 dave

Light wind, poor air expected for tonight

By Star-Bulletin staff

POSTED: 01:30 a.m. HST, Dec 31, 2009

(Single Page View) | Return to Paginated View

State Department of Health officials are warning the public to take precautions against the poor air quality that is expected tonight with the combination of light wind, vog and New Year's Eve fireworks smoke.



CINDY ELLEN RUSSELL / 2006 George Lu peers from behind fireworks he set off in Palolo Valley. View Large Version >>

The National Weather Service in Honolulu predicted light and variable winds tonight with little rainfall.

www.starbulletin.com > News >

"Winds are expected to remain light through New Year's Eve with sea breezes forming in the afternoon and light land breezes forming at night," forecasters said yesterday. "Smoke ventilation from fireworks is expected to be

The department's Clean Air Branch says fireworks smoke

can aggravate conditions such as asthma, emphysema and chronic bronchitis. Anyone with these lung conditions is advised to:

- » Stay indoors and close your windows and doors on New Year's Eve.
- » Check air conditioners or purifiers and change filters if necessary.
- » Avoid smoking and secondhand smoke.
- » Have an adequate supply of prescribed medicines and use them as directed.
- » Contact a physician and get clear instructions on what to do if your lung condition suddenly worsens
- » Avoid people who have colds and other lung infections, and wash your hands thoroughly
- » Get plenty of rest and limit physical exertion.
- » Drink plenty of fluids to loosen mucus. (Warm beverages work best.)

Health Department officials said they will be monitoring Hawaii's air quality during the New Year's holiday

Light tradewinds are expected to return briefly on New Year's Day, but be quickly replaced by light and variable winds for the weekend.

For more information, contact the Clean Air Branch at 586-4200, or the American Lung Association of Hawaii at 537-5966, or go to www.ala-hawaii.org

(Single Page View) | Return to Paginated View



Today's Ed

Hawaii News

- Isles' senators stay committed to Ak
- GOP Senate victory boosts hope for
- Pastor gets 6 months in fireworks so
- Suspect says seizure preceded wor
- Kokua Line: Low costs at job fairs a employers
- Newswatch
- Police and Fire
- Corrections and Clarifications
- Schools stop teaching foreign langu
- If your password's still 123456, it mid hackme

Features

- Acid Dolls creator takes a leap of fa
- Pet Ohana: Both dogs and cats nee
- Da Kine
- Got nutrients?

Sports

- Pale big for Rough Riders
- Hawaii volleyball team finishes trip v
- UH faces hot NMSU
- California prep DB will join cousin at
- Further Review: RUTS was nuts for I schooling Cowboys
- Hawaii Beat
- Scoreboard
- TV & Radio

- Former Hawaii Superferry joins relie
- Perry & Price reign goes on
- TheBuzz: Tetris' Hawaii boss touts 1 downloads
- Business Briefs

Editorial

- DOE stays in the race
- Transit-oriented development could system
- Letters to the Editor
- **Brief Asides**

SECTION B



LEE CATALUNA

At old air terminal, memories were made

Of all the oddball things to wax nostalgic about, the old Honolulu airport commuter terminal is right up there with missing the sour milk smell of the school cafeteria or fondly remembering the crushing din of intermediate band class. How can you possibly miss something that smelled so bad, sounded even worse and had all the graceful ambience of a concrete bunker?

Yet these things do press up against our hearts, these little pungent, noisy things from simpler days,and when they go away, we miss them although it's hard to explain why.

The commuter airport. what used to be the interisland terminal until the mid-'80s, was as tear-soaked and romantic as the dock at Honolulu Harbor. When ships were replaced by planes for interisland travel, all the elated hellos and fond farewells that seemed so exotic and tender on the waterfront got transferred to the dingy hollow tile jet-exhaust filled box of a building at the 'Ewa end of the airport complex. If you were in Hawai'i during that era, chances are you stood misty eyed on that tiled floor at least once.

Air travel, even interisland, was different then. The old habit of "dressing

Honolulu has a blast on Eve



ABOVE: Lenny Vea of Makiki took 2-year-old Mosese to see the fireworks last night at the Wet'n'Wild waterpark in Kapolei.

REBECCA BREYER The Honolulu Advertise

RIGHT: Bernard Villanueva lights a small string of firecrackers to set off on Kopke Street in Kalihi.

NORMAN SHAPIRO | The Honolulu Advertiser

See video of the fireworks show and more photos, at HONOLULUADVERTISER



Smoke from fireworks covers neighborhoods; sporadic rain helps

BY MICHAEL TSAI

Hawai'i residents rang in 2010 with fireworks, and many O'ahu communities were blanketed by smoke yesterday well before the legal 9 p.m. start time.

In Kalihi, 54-year-old Joseph Padua and a few friends and family set off firecrackers in the parking lot outside Jesse's Coffee Shop, which Padua manages.
"Burning money!" Padua said,

laughing. "We didn't buy that much fireworks this year because of the recession but it's still a tradition."

As of 10 p.m., the Honolulu Fire Department reported responding to il fireworks-related calls, all relatively minor.

Sporadic but heavy rain over parts of O'ahu may have helped keep things under control.

Shortly after 12:30 a.m. today, paramedics were sent to two calls of fireworks injuries in Waipahu and Mā'ili.

Earlier at Likelike Elementary, Willie Singleton, 55, of Kalihi, joined family and neighbors in setting off a few fireworks.

"Fireworks are a local tradition

to chase away evil spirits," said Singleton, who grew up in Detroit. That's what we do here.

"Tomorrow I'm going to cook up some black-eyed peas as part of my black tradition. Good luck is good luck, regardless of the culture.

The unemployed baker and cook said he hopes for a more prosperous 2010.

"I hope people have the chance to get back to work and that kids get to go back to school like they

should," he said. Dana Hanohano, 43, and her children Ha'aheo, Ho'okela, and Hi'ilei spent the evening celebrating with family in Liliha.

"For us, fireworks are entertainment for the kids," she said. "It's better here than in Waimānalo.

SEE EVE. B4

Eve

CONTINUED FROM B1

The smoke is so thick there you can barely see the road."

Illegal aerials could be spotted all around Kalihi Valley, where by midevening the streets were carpeted with spent fireworks.

Bernard Villanueva, 27, sat in his garage with family and friends to take in the scene.

"You can turn 360 degrees and see them everywhere," he said.

A few yards away, a cluster of tubes used to launch aerial fireworks sat temporarily empty. Villanueva said the device was being shared by families on the block — with plausible deniability assured to all.

Joel Domingo, 27, and his family ushered in the new year with an assortment of devices, including a noise-maker "cannon" made out of aluminum cans and duct tape and fueled by lighter fluid. Domingo was vague about plans for midnight, but admitted "a few illegals" might be involved.

His wish for the New Year was simple. "You know, health and happiness for everybody," he said. "And that the Lakers win the championship."

Of the 11 fires reported as of 10 p.m., four were small wildfires, four rubbish fires,

one vehicle fire and two others. Several other fires were reported but were not classified as probable fireworks related.

HFD spokesman Capt. Terry Seelig noted that reports of probable fireworksrelated fires represent quick field assessments of a fire's cause and are not considered official determinations.

No damage estimates were available last night.

Last New Year's, the Honolulu Fire Department responded to 58 fire calls, 26 of which were fireworks related, with total damages of \$10,000. In 2007, the department fielded 79 calls, 33 firerelated, for a loss of \$83,500.

HFD spokesman Capt. Terry Seelig noted that reports of probable fireworksrelated fires represent quick field assessments of a fire's cause and are not considered official determinations.

Satellite city halls reported sales of 8,055 firecracker permits this year, reversing a three-year decline. Last year, 6,924 permits were issued.

The city issued 9,219 fire-cracker permits in 2007, 10,960 in 2006, 13,979 in 2005 and 12,525 in 2004.

Under state law, consumer fireworks legally could be set off from 9 p.m. yesterday to 1 a.m. today, a four-hour window.

Reach Michael Tsai at mtsai@honoluluadvertis er.com.

Find it: Site Map | Coupons | Weekly Deals | Apartments | Dating | Jobs | Cars | Real estate | Classified ads | Subscribe

honoluluadvertiser.cm

Monday, January 11, 2010

All Local News Archives Calendar More »

SEARCH
ALL

go

HOME LOCAL NEWS SPORTS BUSINESS MY ADVERTISER ISLAND LIFE TGIF OPINION MULTIMEDIA BLOGS/FORUMS CLASSIFIED ADS HELP

Breaking news Blogs Traffic Weather Salute to the Fallen FYI Advertiser Special projects Obituaries Back issues Archive

HAWARI'S Complete SOURCE

LOCAL NEWS

Posted on: Sunday, January 10, 2010

New Year's fireworks injured 112 in Islands

· Hawaii fireworks ban not a Capitol priority

Print this page

E-mail this article

Share

By Christie Wilson Advertiser Staff Writer

Fireworks injured 112 people in Hawaii, half of them children, during the recent New Year's holiday, including seven who were admitted to hospitals with serious burns or blast wounds, according to the state Department of Health.

The number of injuries is the highest since the agency's Injury Prevention & Control Program began tracking the data 10 years ago.

"This New Year's we saw records for the number of injured (112), the number admitted to hospitals (seven), and the number transported by EMS (seven)," said Health Department epidemiologist Dan Galanis. "Those latter two observations indicate an increase in more severe injuries this year."

The data reflect hospital emergency room visits for fireworks-related injuries during the period of Dec. 31 to Jan 2.

Ninety-nine cases were reported on O'ahu, seven on Maui, four on the Big Island and one each on Kaua'i and Lanai, according to the report.

The ages of those injured ranged from 2 to 82. Seven were under the age of 5 and nearly 80 percent were males.

Galanis pointed out that there were more children under the age of 16 hurt

by fireworks during the three-day period than in an average month from car crashes (42), assaults (21), poisonings (13) or pedestrian collisions (9).

Three-quarters of the injuries occurred while victims were holding or setting off fireworks, with observers suffering the remainder, the report said.

Hands and fingers were the most commonly injured body part, accounting for 55 percent of cases.

Of the cases in which the type of firework is known, firecrackers injured 15 people; spinning "flowers," nine; sparklers, five; and aerials, four.

Reach Christie Wilson at cwilson@honoluluadvertiser.com.

More News headlines

Schatz enters crowded race (9)

Missing moon rocks turn up (6)

City rail committee didn't keep minutes (23

Plane crashes near Palolo

Another relatively safe year on Hawaii's roads

Traffic alerts

| Enter cell phone number to get traffic text messages: | | | | | |
|-------------------------------------------------------|--------|---|--|--|--|
| () - | Submit | - | | | |

Message and data rates may apply. To opt out, text STOP to 4INFO (44636). For more information, text HELP to 4INFO (44636). Contact your carrier for more details.

Sign up for more alerts »

Related Stories

■ Tennis: Cilic retains Chennai Open title

Contextual linking provided by Topix

Attachment 5

Honolulu Star-Bulletin Public notice: Affidavit of Publication (State-wide distribution)